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<120> Human Antibody Molecules for IL-13

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<151> 2004-03-31

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<160> 249

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<212> PRT

<213> Homo sapiens

<400> 1

Asn Tyr Gly Leu Ser
1 5

<210> 2

<211> 16

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<400> 2

Trp Ile Ser Ala Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe Gln Gly
1 5 10 15

<210> 3

<211> 13

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<400> 3

Asp Ser Ser Ser Asn Trp Ala Arg Trp Phe Phe Asp Leu
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<210> 4

<211> 11

<212> PRT

<213> Homo sapiens

<400> 4

Gly Gly Asn Asn Ile Gly Ser Lys Leu Val His
1 5 10

<210> 5

<211> 7

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<400> 5

Asp Asp Gly Asp Arg Pro Ser
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<210> 6

<211> 11

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Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 7

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<400> 7

Asn Tyr Gly Leu Ser

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<400> 8

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Gly | Asp | Thr | Asn | Tyr | Gly | Gln | Glu | Phe | Gln | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

<210> 9

<211> 13

<212> PRT

<213> Homo sapiens

<400> 9

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Ser | Ser | Ser | Trp | Ala | Arg | Trp | Phe | Phe | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 10

<211> 11

<212> PRT

<213> Homo sapiens

<400> 10

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Asn | Ile | Ile | Gly | Ser | Lys | Leu | Val | His |
| 1 | | | 5 | | | | | 10 | | |

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<212> PRT

<213> Homo sapiens

<400> 11

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 12

<211> 11

<212> PRT

<213> Homo sapiens

<400> 12

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 13

<211> 122

<212> PRT

<213> Homo sapiens

<400> 13

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Arg Asn Tyr
20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Ser Ala Asn Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Ile Thr Met Thr Thr Glu Thr Ser Thr Asn Thr Ala His
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Val Arg Asp Ser Ser Ser Asn Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Lys Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 14

<211> 108

<212> PRT

<213> Homo sapiens

<400> 14

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Gln
1 5 10 15

Thr Ala Arg Ile Pro Cys Gly Gly Asn Asn Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Val Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ile Asp Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 15

<211> 122

<212> PRT

<213> Homo sapiens

<400> 15

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Ser Ala Asn Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 16

<211> 108

<212> PRT

<213> Homo sapiens

<400> 16

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val

20

25

30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
 50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
 65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
 85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105

<210> 17

<211> 30

<212> PRT

<213> Homo sapiens

<400> 17

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Arg
 20 25 30

<210> 18

<211> 14

<212> PRT

<213> Homo sapiens

<400> 18

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
 1 5 10

<210> 19

<211> 32

<212> PRT

<213> Homo sapiens

<400> 19

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Ile | Thr | Met | Thr | Thr | Glu | Thr | Ser | Thr | Asn | Thr | Ala | His | Met | Glu |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Arg | Ser | Leu | Arg | Ser | Asp | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | Val | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |

<210> 20

<211> 22

<212> PRT

<213> Homo sapiens

<400> 20

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Tyr | Val | Leu | Thr | Gln | Pro | Pro | Ser | Val | Ser | Val | Ala | Pro | Gly | Gln |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| Thr | Ala | Arg | Ile | Pro | Cys |
| | | | 20 | | |

<210> 21

<211> 15

<212> PRT

<213> Homo sapiens

<400> 21

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Ala | Pro | Val | Leu | Val | Val | Tyr |
| 1 | | | | 5 | | | | 10 | | | | | | 15 |

<210> 22

<211> 32

<212> PRT

<213> Homo sapiens

<400> 22

Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr
1 5 10 15

Leu Thr Ile Ser Arg Ile Asp Ala Gly Asp Glu Ala Asp Tyr Tyr Cys
20 25 30

<210> 23

<211> 120

<212> PRT

<213> Homo sapiens

<400> 23

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Gly Ala Ala Gly Glu Gly Tyr Tyr Gly Tyr Trp Gly Arg
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 24

<211> 110

<212> PRT

<213> Homo sapiens

<400> 24

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
1 5 10 15

Thr Val Thr Ile Ser Cys Thr Arg Ser Ser Gly Ser Ile Ala Ser Asn
20 25 30

Tyr Val Gln Trp Tyr Gln Gln Arg Pro Gly Ser Ala Pro Thr Thr Val
35 40 45

Ile Tyr Asp Asp Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser
85 90 95

Asn Asn Asp Val Phe Gly Gly Gly Thr Lys Val Thr Val Leu
100 105 110

<210> 25

<211> 123

<212> PRT

<213> Homo sapiens

<400> 25

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Gly Leu Val Gln Pro Gly
1 5 10 15

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser
20 25 30

Tyr Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Ser Ser Ile Ser Ala Ser Gly Asp Ser Thr Phe Tyr Ala Asp Ser
50 55 60

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Asn Lys Asn Met Val
65 70 75 80

Phe Leu Gln Val Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr Phe
85 90 95

Cys Ala Lys Asp Trp Ser Gln Trp Leu Val Gly Asp Ala Phe Asp Val
100 105 110

Trp Gly Arg Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 26

<211> 108

<212> PRT

<213> Homo sapiens

<400> 26

Asp Ile Gln Leu Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Val Ser Leu Trp
20 25 30

Val Ala Trp Tyr Gln Gln Arg Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Asp Gly Ser Thr Leu Gln Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Lys Thr Phe Ser Thr
85 90 95

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Ala
100 105

<210> 27

<211> 30

<212> PRT

<213> Homo sapiens

<400> 27

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
20 25 30

<210> 28

<211> 14

<212> PRT

<213> Homo sapiens

<400> 28

Trp Tyr Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
1 5 10

<210> 29

<211> 32

<212> PRT

<213> Homo sapiens

<400> 29

Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr Met Glu
1 5 10 15

Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 30

<211> 22

<212> PRT

<213> Homo sapiens

<400> 30

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys
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<210> 31

<211> 15

<212> PRT

<213> Homo sapiens

<400> 31

Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
1 5 10 15

<210> 32

<211> 32

<212> PRT

<213> Homo sapiens

<400> 32

Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr
1 5 10 15

Leu Thr Ile Ser Arg Val Glu Ala Gly Asp Glu Ala Asp Tyr Tyr Cys
20 25 30

<210> 33

<211> 122

<212> PRT

<213> Homo sapiens

<400> 33

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Gly Lys Ala Thr Thr Glu Glu Gly Tyr Tyr Gly Tyr Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser

115

120

<210> 34

<211> 110

<212> PRT

<213> Homo sapiens

<400> 34

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
1 5 10 15

Thr Val Thr Ile Ser Cys Thr Arg Ser Ser Gly Ser Ile Ala Ser Asn
20 25 30

Tyr Val Gln Trp Tyr Gln Gln Arg Pro Gly Ser Ala Pro Thr Thr Val
35 40 45

Ile Tyr Asp Asp Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser
85 90 95

Asn Asn Asp Val Phe Gly Gly Gly Thr Lys Val Thr Val Leu
100 105 110

<210> 35

<211> 122

<212> PRT

<213> Homo sapiens

<400> 35

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Glu Gln Thr
20 25 30

Gly Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Ser Ala Asn Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 36

<211> 108

<212> PRT

<213> Homo sapiens

<400> 36

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 37

<211> 122

<212> PRT

<213> Homo sapiens

<400> 37

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Tyr Asp Gly Gly Asn Thr Gln Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 38

<211> 108

<212> PRT

<213> Homo sapiens

<400> 38

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 39

<211> 122

<212> PRT

<213> Homo sapiens

<400> 39

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20

25

30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Ser Gly Leu Asn Gly Glu Thr Leu Tyr Gly Gln Glu Phe
 50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
 100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 40

<211> 108

<212> PRT

<213> Homo sapiens

<400> 40

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
 1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
 35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
 50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
 65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 41

<211> 122

<212> PRT

<213> Homo sapiens

<400> 41

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Ala Thr Pro Asp Gly Gln Thr Ser Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Asn Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 42

<211> 108

<212> PRT

<213> Homo sapiens

<400> 42

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 43

<211> 122

<212> PRT

<213> Homo sapiens

<400> 43

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ile Asp Thr
20 25 30

Gly Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Ser Ala Asn Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 44

<211> 108

<212> PRT

<213> Homo sapiens

<400> 44

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro

85

90

95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105

<210> 45

<211> 122

<212> PRT

<213> Homo sapiens

<400> 45

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Ser Gly Ser Asn Gly Tyr Thr Ser Tyr Gly Gln Glu Phe
 50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
 100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 46

<211> 108

<212> PRT

<213> Homo sapiens

<400> 46

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 47

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<212> PRT

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<400> 47

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Asp Ala Thr Gly Asp Thr Gln Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 48

<211> 108

<212> PRT

<213> Homo sapiens

<400> 48

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 49

<211> 122

<212> PRT

<213> Homo sapiens

<400> 49

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Arg Asn Ile Asp Gly Tyr Thr Ile Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 50

<211> 108

<212> PRT

<213> Homo sapiens

<400> 50

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 51

<211> 122

<212> PRT

<213> Homo sapiens

<400> 51

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Asp Asp Ser Gly Thr Thr Ile Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 52

<211> 108

<212> PRT

<213> Homo sapiens

<400> 52

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 53

<211> 122

<212> PRT

<213> Homo sapiens

<400> 53

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Asn Thr
20 25 30

Gly Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Ser Ala Asn Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 54

<211> 108

<212> PRT

<213> Homo sapiens

<400> 54

Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Lys
1 5 10 15

Thr Ala Arg Ile Thr Cys Gly Gly Asn Ile Ile Gly Ser Lys Leu Val
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
85 90 95

Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 55

<211> 5

<212> PRT

<213> Homo sapiens

<400> 55

Ser Tyr Ala Met Ser
1 5

<210> 56

<211> 17

<212> PRT

<213> Homo sapiens

<400> 56

Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys

1 5 10 15

Gly

<210> 57

<211> 11

<212> PRT

<213> Homo sapiens

<400> 57

Val Gly Ala Ala Gly Glu Gly Tyr Tyr Gly Tyr
1 5 10

<210> 58

<211> 13

<212> PRT

<213> Homo sapiens

<400> 58

Thr Arg Ser Ser Gly Ser Ile Ala Ser Asn Tyr Val Gln
1 5 10

<210> 59

<211> 7

<212> PRT

<213> Homo sapiens

<400> 59

Asp Asp Asn Gln Arg Pro Ser
1 5

<210> 60

<211> 9

<212> PRT

<213> Homo sapiens

<400> 60

Gln Ser Tyr Asp Ser Asn Asn Asp Val
1 5

<210> 61

<211> 5

<212> PRT

<213> Homo sapiens

<400> 61

Gln Thr Gly Val Ser
1 5

<210> 62

<211> 16

<212> PRT

<213> Homo sapiens

<400> 62

Trp Ile Ser Ala Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe Gln Gly
1 5 10 15

<210> 63

<211> 13

<212> PRT

<213> Homo sapiens

<400> 63

Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 64

<211> 11

<212> PRT

<213> Homo sapiens

<400> 64

Gly Gly Asn Ile Ile Gly Ser Lys Leu Val His
1 5 10

<210> 65

<211> 7

<212> PRT

<213> Homo sapiens

<400> 65

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 66

<211> 11

<212> PRT

<213> Homo sapiens

<400> 66

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 67

<211> 5

<212> PRT

<213> Homo sapiens

<400> 67

Asn Thr Gly Ile Ser
1 5

<210> 68

<211> 16

<212> PRT

<213> Homo sapiens

<400> 68

Trp Ile Ser Ala Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe Gln Gly
1 5 10 15

<210> 69

<211> 13

<212> PRT

<213> Homo sapiens

<400> 69

Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 70

<211> 11

<212> PRT

<213> Homo sapiens

<400> 70

Gly Gly Asn Ile Ile Gly Ser Lys Leu Val His

1 5 10

<210> 71

<211> 7

<212> PRT

<213> Homo sapiens

<400> 71

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 72

<211> 11

<212> PRT

<213> Homo sapiens

<400> 72

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
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<210> 73

<211> 5

<212> PRT

<213> Homo sapiens

<400> 73

Asn Tyr Gly Leu Ser
1 5

<210> 74

<211> 16

<212> PRT

<213> Homo sapiens

<400> 74

Trp Ile Ser Gly Asn Gly Tyr Thr Ser Tyr Gly Lys Glu Phe Gln Gly
1 5 10 15

<210> 75

<211> 13

<212> PRT

<213> Homo sapiens

<400> 75

Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 76

<211> 11

<212> PRT

<213> Homo sapiens

<400> 76

Gly Gly Asn Ile Ile Gly Ser Lys Leu Val His
1 5 10

<210> 77

<211> 7

<212> PRT

<213> Homo sapiens

<400> 77

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 78

<211> 11

<212> PRT

<213> Homo sapiens

<400> 78

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 79

<211> 5

<212> PRT

<213> Homo sapiens

<400> 79

Asn Tyr Gly Leu Ser
1 5

<210> 80

<211> 16

<212> PRT

<213> Homo sapiens

<400> 80

Trp Ile Asn Asp Thr Gly Asp Thr Gln Tyr Gly Gln Glu Phe Gln Gly
1 5 10 15

<210> 81

<211> 13

<212> PRT

<213> Homo sapiens

<400> 81

Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 82

<211> 11

<212> PRT

<213> Homo sapiens

<400> 82

Gly Gly Asn Ile Ile Gly Ser Lys Leu Val His
1 5 10

<210> 83

<211> 7

<212> PRT

<213> Homo sapiens

<400> 83

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 84

<211> 11

<212> PRT

<213> Homo sapiens

<400> 84

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 85

<211> 5

<212> PRT

<213> Homo sapiens

<400> 85

Asp Thr Gly Val Ser
1 5

<210> 86

<211> 16

<212> PRT

<213> Homo sapiens

<400> 86

Trp Ile Ser Ala Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe Gln Gly
1 5 10 15

<210> 87

<211> 13

<212> PRT

<213> Homo sapiens

<400> 87

Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 88

<211> 11

<212> PRT

<213> Homo sapiens

<400> 88

Gly Gly Asn Ile Ile Gly Ser Lys Leu Val His
1 5 10

<210> 89

<211> 7

<212> PRT

<213> Homo sapiens

<400> 89

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 90

<211> 11

<212> PRT

<213> Homo sapiens

<400> 90

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 91

<211> 5

<212> PRT

<213> Homo sapiens

<400> 91

Asn Tyr Gly Leu Ser
1 5

<210> 92

<211> 16

<212> PRT

<213> Homo sapiens

<400> 92

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ala | Thr | Asp | Gly | Gln | Thr | Ser | Tyr | Gly | Gln | Glu | Phe | Gln | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

<210> 93

<211> 13

<212> PRT

<213> Homo sapiens

<400> 93

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Ser | Ser | Ser | Trp | Ala | Arg | Trp | Phe | Phe | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 94

<211> 11

<212> PRT

<213> Homo sapiens

<400> 94

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Asn | Ile | Ile | Gly | Ser | Lys | Leu | Val | His |
| 1 | | | 5 | | | | | 10 | | |

<210> 95

<211> 7

<212> PRT

<213> Homo sapiens

<400> 95

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 96

<211> 11

<212> PRT

<213> Homo sapiens

<400> 96

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 97

<211> 5

<212> PRT

<213> Homo sapiens

<400> 97

Asn Tyr Gly Leu Ser
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<210> 98

<211> 16

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<400> 98

Trp Ile Asn Tyr Gly Gly Asn Thr Gln Tyr Gly Gln Glu Phe Gln Gly
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<210> 99

<211> 13

<212> PRT

<213> Homo sapiens

<400> 99

Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 100

<211> 11

<212> PRT

<213> Homo sapiens

<400> 100

Gly Gly Asn Ile Ile Gly Ser Lys Leu Val His
1 5 10

<210> 101

<211> 7

<212> PRT

<213> Homo sapiens

<400> 101

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 102

<211> 11

<212> PRT

<213> Homo sapiens

<400> 102

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 103
<211> 5
<212> PRT
<213> Homo sapiens

<400> 103
Asp Tyr Gly Leu Ser
1 5

<210> 104
<211> 16
<212> PRT
<213> Homo sapiens

<400> 104
Trp Arg Ile Asn Asp Gly Tyr Thr Ile Tyr Gly Gln Glu Phe Gln Gly
1 5 10 15

<210> 105
<211> 13
<212> PRT
<213> Homo sapiens

<400> 105
Asp Ser Ser Ser Ser Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 106
<211> 11
<212> PRT
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<400> 106

Gly Gly Asn Ile Ile Gly Ser Lys Leu Val His
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<210> 107

<211> 7

<212> PRT

<213> Homo sapiens

<400> 107

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 108

<211> 11

<212> PRT

<213> Homo sapiens

<400> 108

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 109

<211> 366

<212> DNA

<213> Homo sapiens

<400> 109

caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60

tcctgcaagg cttctgggta cacctttaca aattatgggc tcagctgggt gcgacaggcc 120

cctggacaag ggcttgagtg gatgggatgg atcagcgcta ataatggcga cacaattat 180

| | |
|--|-----|
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcaact gggcccgcgtg gtttttcgat ctctggggcc gggggacact ggtcaccgtc | 360 |
| tctca | 366 |

<210> 110

<211> 327

<212> DNA

<213> Homo sapiens

| | |
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| <400> 110 | |
| tcctatgtgc tgactcagcc accctcgggtg tcagtggccc caggtaagac ggccaggatt | 60 |
| acctgtgggg gaaacaacat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcagggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 111

<211> 366

<212> DNA

<213> Homo sapiens

| | |
|---|-----|
| <400> 111 | |
| cagggtccagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctggtta cacctttaca aattatggtc tcagctgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atcagcgcta ataatggcga cacaaattat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgcgtg gtttttcgat ctctggggcc gggggacact ggtcaccgtc | 360 |

tcctca

366

<210> 112

<211> 327

<212> DNA

<213> Homo sapiens

<400> 112

| | |
|---|-----|
| tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcagggtgtg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 113

<211> 366

<212> DNA

<213> Homo sapiens

<400> 113

| | |
|---|-----|
| cagggtccagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctgggta cacctttaca aattatggtc tcagctgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atctccggct tgaacggcga gacattgtat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgtg gtttttcgat ctctggggcc gggggacact ggtcaccgtc | 360 |
| tcctca | 366 |

<210> 114

<211> 327

<212> DNA

<213> Homo sapiens

<400> 114

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|---|-----|
| tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctgggt ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcagggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 115

<211> 366

<212> DNA

<213> Homo sapiens

<400> 115

| | |
|---|-----|
| caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctgggta cacctttaca aattatggtc tcagctgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atcgcaaccc cagacggcca gacaagctat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| aacagcagct gggcccgtg gtttttcgat ctctggggcc gggggacact ggtcaccgtc | 360 |
| tcctca | 366 |

<210> 116

<211> 327

<212> DNA

<213> Homo sapiens

<400> 116

| | |
|---|-----|
| tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcaggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 117

<211> 366

<212> DNA

<213> Homo sapiens

| | |
|--|-----|
| <400> 117 | |
| caagtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctgggta cacctttgag cagaccggcg tctcctgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atcagcgcta ataatggcga cacaaattat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgtg gtttttcgat ctctggggcc gggggacact ggtcaccgtc | 360 |
| tcctca | 366 |

<210> 118

<211> 327

<212> DNA

<213> Homo sapiens

| | |
|---|-----|
| <400> 118 | |
| tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |

| | |
|---|-----|
| gatgaggccg actattattg tcaggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 119

<211> 366

<212> DNA

<213> Homo sapiens

| | |
|---|-----|
| <400> 119 | |
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| tcttgcaagg cttctgggta cacctttatc gacaccgggg tctcctgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atcagcgcta ataatggcga cacaaattat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgtg gtttttcgat ctctggggcc gggggacact ggtcaccgtc | 360 |
| tcctca | 366 |

<210> 120

<211> 327

<212> DNA

<213> Homo sapiens

| | |
|---|-----|
| <400> 120 | |
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| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcaggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 121

<211> 366

<212> DNA

<213> Homo sapiens

<400> 121

| | |
|--|-----|
| caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctgggta cacctttaca aattatgggc tcagctgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atcaactacg acggcggcaa cacacagtat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgcctg gtttttcgat ctctggggcc gggggacact ggtcaccgtc | 360 |
| tcctca | 366 |

<210> 122

<211> 327

<212> DNA

<213> Homo sapiens

<400> 122

| | |
|---|-----|
| tcctatgtgc tgactcagcc accctcgggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcagggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 123

<211> 366

<212> DNA

<213> Homo sapiens

<400> 123
caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctgggta cacctttaca aattatgggc tcagctgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggatgg atcagcggga gcaacggcta cacatcttat 180
ggacaggaat tccagggcag agtcaccatg accacagata cgtccacgag cacagcctac 240
atggagttga ggagcctgag atctgacgac acggccggtt attactgtgc gagagactcc 300
agcagcagct gggcccgcgt gtttttcgat ctctggggcc gggggacact ggtcaccgtc 360
tcctca 366

<210> 124

<211> 327

<212> DNA

<213> Homo sapiens

<400> 124
tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggaaagac ggccaggatt 60
acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc 120
caggccctcg tgctgggcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga 180
ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg 240
gatgaggccg actattattg tcagggtgtg gatactggta gtgatcccggt ggtattcggc 300
ggagggacca agctgaccgt cctaggt 327

<210> 125

<211> 366

<212> DNA

<213> Homo sapiens

<400> 125
caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctgggta cacctttaca aattatgggc tcagctgggt gcgacaggcc 120

| | |
|--|-----|
| cctggacaag ggcttgagtg gatgggatgg atcaacgacg ccaccggcga cacacagtat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgcgtg gtttttcgat ctctggggcc gggggacact ggtcacgcgc | 360 |
| tctca | 366 |

<210> 126

<211> 327

<212> DNA

<213> Homo sapiens

| | |
|---|-----|
| <400> 126 | |
| tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctggatcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcagggtgtgg gatactggta gtgatcccggt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 127

<211> 366

<212> DNA

<213> Homo sapiens

| | |
|--|-----|
| <400> 127 | |
| caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctgggta cacctttaca gattatgggc tcagctgggt gcgacaggcc | 120 |
| cctggacaag ggctagagtg gatgggatgg atccgcaaca tcgacggcta cacaatttat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgcgtg gtttttcgat ctctggggcc gggggacact ggtcacgcgc | 360 |

tcctca 366

<210> 128

<211> 327

<212> DNA

<213> Homo sapiens

<400> 128

| | |
|---|-----|
| tcctatgtgc tgactcagcc accctcgggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctgggt ccaactctgg gaacacggcc accctgacca tcagcaggggt cgaggccggg | 240 |
| gatgaggccg actattattg tcaggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 129

<211> 366

<212> DNA

<213> Homo sapiens

<400> 129

| | |
|--|-----|
| caggtccagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctggtta cacctttaca aattatgggtc tcagctgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atcgacgacg acagcggcac gacaatatat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgtg gtttttcgat ctctggggcc gggggacact ggtcacgctc | 360 |
| tcctca | 366 |

<210> 130

<211> 327

<212> DNA

<213> Homo sapiens

<400> 130

| | |
|---|-----|
| tcctatgtgc tgactcagcc accctcggtg tcagtggccc caggaaagac ggccaggatt | 60 |
| acctgtgggg gaaacatcat tggaagtaaa cttgtacact ggtaccagca gaagccaggc | 120 |
| caggccccctg tgctgggtcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga | 180 |
| ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg | 240 |
| gatgaggccg actattattg tcagggtgtgg gatactggta gtgatcccgt ggtattcggc | 300 |
| ggagggacca agctgaccgt cctaggt | 327 |

<210> 131

<211> 366

<212> DNA

<213> Homo sapiens

<400> 131

| | |
|---|-----|
| caagtgcagt tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc | 60 |
| tcctgcaagg cttctggtta cacctttgcg aacaccggga tctcgtgggt gcgacaggcc | 120 |
| cctggacaag ggcttgagtg gatgggatgg atcagcgcta ataatggcga cacaattat | 180 |
| ggacaggaat tccagggcag agtcaccatg accacagata catccacgag cacagcctac | 240 |
| atggagttga ggagcctgag atctgacgac acggccgttt attactgtgc gagagactcc | 300 |
| agcagcagct gggcccgtg gtttttcgat ctctggggtc gggggacact ggtcaccgtc | 360 |
| tcctca | 366 |

<210> 132

<211> 327

<212> DNA

<213> Homo sapiens

<400> 132
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 caggccccctg tgctggatcat ctatgatgat ggcgaccggc cctcagggat ccctgagcga 180
 ttctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaggccggg 240
 gatgaggccg actattattg tcagggtgtgg gatactggta gtgatcccgt ggtattcggc 300
 ggagggacca agctgaccgt cctaggt 327

<210> 133
 <211> 122
 <212> PRT
 <213> Homo sapiens

<400> 133
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Leu Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Ser Ala Asn Asn Gly Glu Thr Asn Tyr Gly Gln Glu Phe
 50 55 60
 Gln Gly Arg Val Thr Met Thr Thr Glu Thr Pro Thr Asn Thr Ala His
 65 70 75 80
 Met Glu Leu Arg Ser Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Val Arg Asp Ser Ser Ser Asn Trp Ala Arg Trp Tyr Phe Asp Leu Trp
 100 105 110
 Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 134
 <211> 109
 <212> PRT
 <213> Homo sapiens

<400> 134
 Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro Gly Gln
 1 5 10 15
 Thr Ala Arg Ile Pro Cys Gly Gly Asn Asn Ile Gly Ser Lys Leu Val
 20 25 30
 His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Val Tyr
 35 40 45
 Asp Asp Gly Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
 50 55 60
 Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ile Asp Ala Gly
 65 70 75 80
 Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Thr Gly Ser Asp Pro
 85 90 95
 Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 135
 <211> 5
 <212> PRT
 <213> Homo sapiens

<400> 135
 Asn Tyr Gly Leu Ser
 1 5

<210> 136
<211> 17
<212> PRT
<213> Homo sapiens

<400> 136
Trp Ile Ser Ala Asn Asn Gly Glu Thr Asn Tyr Gly Gln Glu Phe Gln
1 5 10 15

Gly

<210> 137
<211> 13
<212> PRT
<213> Homo sapiens

<400> 137
Asp Ser Ser Ser Asn Trp Ala Arg Trp Tyr Phe Asp Leu
1 5 10

<210> 138
<211> 11
<212> PRT
<213> Homo sapiens

<400> 138
Gly Gly Asn Asn Ile Gly Ser Lys Leu Val His
1 5 10

<210> 139
<211> 7
<212> PRT

<213> Homo sapiens

<400> 139

Asp Asp Gly Asp Arg Pro Ser
1 5

<210> 140

<211> 11

<212> PRT

<213> Homo sapiens

<400> 140

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Val
1 5 10

<210> 141

<211> 5

<212> PRT

<213> Homo sapiens

<400> 141

Ser Tyr Ala Met Ser
1 5

<210> 142

<211> 17

<212> PRT

<213> Homo sapiens

<400> 142

Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 143

<211> 11

<212> PRT

<213> Homo sapiens

<400> 143

Val Gly Ala Ala Gly Glu Gly Tyr Tyr Gly Tyr
1 5 10

<210> 144

<211> 13

<212> PRT

<213> Homo sapiens

<400> 144

Thr Arg Ser Ser Gly Ser Ile Ala Ser Asn Tyr Val Glu
1 5 10

<210> 145

<211> 7

<212> PRT

<213> Homo sapiens

<400> 145

Asp Asp Asn Gln Arg Pro Ser
1 5

<210> 146

<211> 9

<212> PRT

<213> Homo sapiens

<400> 146

Gln Ser Tyr Asp Ser Asn Asn Asp Val
1 5

<210> 147

<211> 5

<212> PRT

<213> Homo sapiens

<400> 147

Ser Tyr Ala Met Ser
1 5

<210> 148

<211> 17

<212> PRT

<213> Homo sapiens

<400> 148

Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 149

<211> 13

<212> PRT

<213> Homo sapiens

<400> 149

Val Gly Arg Ala Thr Thr Asp Glu Gly Tyr Tyr Gly Tyr
1 5 10

<210> 150

<211> 13

<212> PRT

<213> Homo sapiens

<400> 150

Thr Arg Ser Ser Gly Ser Ile Ala Ser Asn Tyr Val Gln
1 5 10

<210> 151

<211> 7

<212> PRT

<213> Homo sapiens

<400> 151

Asp Asp Asn Gln Arg Pro Ser
1 5

<210> 152

<211> 9

<212> PRT

<213> Homo sapiens

<400> 152

Gln Ser Tyr Asp Ser Asn Asn Asp Val
1 5

<210> 153

<211> 5

<212> PRT

<213> Homo sapiens

<400> 153

Ser Tyr Ala Met Ser
1 5

<210> 154

<211> 17

<212> PRT

<213> Homo sapiens

<400> 154

Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 155

<211> 11

<212> PRT

<213> Homo sapiens

<400> 155

Val Gly Lys Ala Thr Thr Glu Glu Gly Tyr Tyr
1 5 10

<210> 156

<211> 13

<212> PRT

<213> Homo sapiens

<400> 156

Thr Arg Ser Ser Gly Ser Ile Ala Ser Asn Tyr Val Gln
1 5 10

<210> 157

<211> 7

<212> PRT

<213> Homo sapiens

<400> 157

Asp Asp Asn Gln Arg Pro Ser
1 5

<210> 158

<211> 9

<212> PRT

<213> Homo sapiens

<400> 158

Gln Ser Tyr Asp Ser Asn Asn Asp Val
1 5

<210> 159

<211> 15

<212> DNA

<213> Homo sapiens

<400> 159

aattatgggtc tcagc

15

<210> 160

<211> 51

<212> DNA

<213> Homo sapiens

<400> 160

tggatcagcg ctaataatgg cgacacaaat tatggacagg aattccaggg c

51

<210> 161

<211> 39

<212> DNA

<213> Homo sapiens

<400> 161

gactccagca gcaactgggc ccgctggttt ttcgatctc

39

<210> 162

<211> 33

<212> DNA

<213> Homo sapiens

<400> 162

gggggaaaca acattggaag taaacttgta cac

33

<210> 163

<211> 21

<212> DNA

<213> Homo sapiens

<400> 163

gatgatggcg accggccctc a

21

<210> 164

<211> 33

<212> DNA

<213> Homo sapiens

<400> 164

caggtgtggg atactggtag tgatcccggtg gta

33

<210> 165

<211> 15

<212> DNA

<213> Homo sapiens

<400> 165

aattatgggtc tcagc

15

<210> 166

<211> 51

<212> DNA

<213> Homo sapiens

<400> 166

tggatcagcg ctaataatgg cgacacaaat tatggacagg aattccaggg c

51

<210> 167

<211> 39

<212> DNA

<213> Homo sapiens

<400> 167

gactccagca gcagctgggc ccgctgggtt ttgatctc

39

<210> 168

<211> 33

<212> DNA

<213> Homo sapiens

<400> 168

gggggaaaca tcattggaag taaacttgta cac

33

<210> 169

<211> 21

<212> DNA

<213> Homo sapiens

<400> 169

gatgatggcg accggccctc a

21

<210> 170

<211> 33

<212> DNA

<213> Homo sapiens

<400> 170

caggtgtggg atactggtag tgatcccgtg gta

33

<210> 171

<211> 327

<212> PRT

<213> Homo sapiens

<400> 171

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro
100 105 110

Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
305 310 315 320

Leu Ser Leu Ser Leu Gly Lys
325

<210> 172

<211> 105

<212> PRT

<213> Homo sapiens

<400> 172

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
1 5 10 15

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
20 25 30

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
35 40 45

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
50 55 60

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
65 70 75 80

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
85 90 95

Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 173

<211> 132

<212> PRT

<213> Homo sapiens

<400> 173

Met Ala Leu Leu Leu Thr Thr Val Ile Ala Leu Thr Cys Leu Gly Gly
1 5 10 15

Phe Ala Ser Pro Gly Pro Val Pro Pro Ser Thr Ala Leu Arg Glu Leu
20 25 30

Ile Glu Glu Leu Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys
35 40 45

Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys
50 55 60

Ala Ala Leu Glu Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu
65 70 75 80

Lys Thr Gln Arg Met Leu Ser Gly Phe Cys Pro His Lys Val Ser Ala
85 90 95

Gly Gln Phe Ser Ser Leu His Val Arg Asp Thr Lys Ile Glu Val Ala
100 105 110

Gln Phe Val Lys Asp Leu Leu Leu His Leu Lys Lys Leu Phe Arg Glu
115 120 125

Gly Arg Phe Asn
130

<210> 174

<211> 132

<212> PRT

<213> Macaca fascicularis

<400> 174

Met Ala Leu Leu Leu Thr Thr Val Ile Ala Leu Thr Cys Leu Gly Gly
1 5 10 15

Phe Ala Ser Pro Ser Pro Val Pro Pro Ser Thr Ala Leu Lys Glu Leu
20 25 30

Ile Glu Glu Leu Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys
35 40 45

Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Val Tyr Cys
50 55 60

Ala Ala Leu Glu Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu
65 70 75 80

Lys Thr Gln Arg Met Leu Asn Gly Phe Cys Pro His Lys Val Ser Ala
85 90 95

Gly Gln Phe Ser Ser Leu Arg Val Arg Asp Thr Lys Ile Glu Val Ala
100 105 110

Gln Phe Val Lys Asp Leu Leu Val His Leu Lys Lys Leu Phe Arg Glu
115 120 125

Gly Gln Phe Asn
130

<210> 175

<211> 131

<212> PRT

<213> Mus sp.

<400> 175

Met Ala Leu Trp Val Thr Ala Val Leu Ala Leu Ala Cys Leu Gly Gly
1 5 10 15

Leu Ala Ala Pro Gly Pro Val Pro Arg Ser Val Ser Leu Pro Leu Thr
20 25 30

Leu Lys Glu Leu Ile Glu Glu Leu Ser Asn Ile Thr Gln Asp Gln Thr
35 40 45

Pro Leu Cys Asn Gly Ser Met Val Trp Ser Val Asp Leu Ala Ala Gly
50 55 60

Gly Phe Cys Val Ala Leu Asp Ser Leu Thr Asn Ile Ser Asn Cys Asn
65 70 75 80

Ala Ile Tyr Arg Thr Gln Arg Ile Leu His Gly Leu Cys Asn Arg Lys
85 90 95

Ala Pro Thr Thr Val Ser Ser Leu Pro Asp Thr Lys Ile Glu Val Ala
100 105 110

His Phe Ile Thr Lys Leu Leu Ser Tyr Thr Lys Gln Leu Phe Arg His
115 120 125

Gly Pro Phe
130

<210> 176

<211> 5

<212> PRT

<213> Artificial sequence

<220>

<223> HCDR1 formula

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> Xaa is selected from the group consisting of Asn, Gln, Asp, Leu,
Gly and Glu

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> Xaa is selected from the group consisting of Tyr and Thr

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Xaa is selected from the group consisting of Val, Ile, Phe and Le
u

<400> 176

Xaa Xaa Gly Xaa Ser
1 5

<210> 177

<211> 17

<212> PRT

<213> Artificial sequence

<220>

<223> HCDR2 formula

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Xaa is selected from the group consisting of Ser, Asp, Asn, Ala,
Arg, Gly and Glu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Xaa is selected from the group consisting of Ala, Asp, Gly, Thr, Pro, Asn and Tyr

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Xaa is selected from the group consisting of Asn, Asp, Leu, Ala, Pro, Thr, Ser, Ile and Arg

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> Xaa is selected from the group consisting of Asn, Ser, Thr, Asp, Gly, Lys and Ile

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> Xaa is selected from the group consisting of Asp, Thr, Glu, Gln, Leu, Tyr, Asn, Val, Ala, Met and Gly

<220>

<221> MISC_FEATURE

<222> (10)..(10)

<223> Xaa is selected from the group consisting of Asn, Ile, Leu, Gln, Ser, Met, His, Asp and Lys

<220>

<221> MISC_FEATURE

<222> (12)..(12)

<223> Xaa is selected from the group consisting of Gly and Arg

<220>

<221> MISC_FEATURE

<222> (13)..(13)

<223> Xaa is selected from the group consisting of Gln and Arg

<220>

<221> MISC_FEATURE

<222> (14)..(14)

<223> Xaa is selected from the group consisting of Glu, Lys and Gly

<220>

<221> MISC_FEATURE

<222> (16)..(16)

<223> Xaa is selected from the group consisting of Gln and Arg

<220>

<221> MISC_FEATURE

<222> (17)..(17)

<223> Xaa is selected from the group consisting of Gly and Lys

<400> 177

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Xaa | Xaa | Xaa | Xaa | Gly | Xaa | Thr | Xaa | Tyr | Xaa | Xaa | Xaa | Phe | Xaa |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Xaa

<210> 178

<211> 13
<212> PRT
<213> Artificial sequence

<220>

<223> HCDR3 formula

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> Xaa is selected from the group consisting of Ser, Arg and Asp

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Xaa is selected from the group consisting of Ser, Asn, Asp, Thr and Pro

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Xaa is selected from the group consisting of Ser and Arg

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Xaa is selected from the group consisting of Ser, Asn, Ala, Ile, Arg, Pro and Lys

<220>

<221> MISC_FEATURE

<222> (10)..(10)

<223> Xaa is selected from the group consisting of Phe and Tyr

<220>

<221> MISC_FEATURE

<222> (12)..(12)

<223> Xaa is selected from the group consisting of Asp and Tyr

<400> 178

Asp Xaa Xaa Xaa Xaa Trp Ala Arg Trp Xaa Phe Xaa Leu
1 5 10

<210> 179

<211> 11

<212> PRT

<213> Artificial sequence

<220>

<223> LCDR1 formula

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Xaa is selected from the group consisting of Asn, Asp and Ser

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Xaa is selected from the group consisting of Asn, Ile, Leu, Met,
Cys, Val, Lys, Tyr, Phe, Arg, Thr, Ser, Ala, His and Gly

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Xaa is selected from the group consisting of Ile and Val

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> Xaa is selected from the group consisting of Ser and Gly

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> Xaa is selected from the group consisting of Lys and Arg

<400> 179

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Xaa | Xaa | Xaa | Gly | Xaa | Xaa | Leu | Val | His |
| 1 | | | | 5 | | | | | 10 | |

<210> 180

<211> 7

<212> PRT

<213> Artificial sequence

<220>

<223> LCDR2 formula

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> Xaa is selected from the group consisting of Ser and Thr

<400> 180

Asp Asp Gly Asp Arg Pro Xaa
1 5

<210> 181

<211> 11

<212> PRT

<213> Artificial sequence

<220>

<223> LCDR3 formula

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> Xaa is selected from the group consisting of Asp and Asn

<220>

<221> MISC_FEATURE

<222> (11)..(11)

<223> Xaa is selected from the group consisting of Val and Ile

<400> 181

Gln Val Trp Asp Thr Gly Ser Xaa Pro Val Xaa
1 5 10

<210> 182

<211> 5

<212> PRT

<213> Homo sapiens

<400> 182

Leu Thr Gly Val Ser
1 5

<210> 183

<211> 5

<212> PRT

<213> Homo sapiens

<400> 183

Gly Thr Gly Val Ser
1 5

<210> 184

<211> 5

<212> PRT

<213> Homo sapiens

<400> 184

Glu Thr Gly Ile Ser
1 5

<210> 185

<211> 5

<212> PRT

<213> Homo sapiens

<400> 185

Asp Thr Gly Ile Ser
1 5

<210> 186
<211> 5
<212> PRT
<213> Homo sapiens

<400> 186
Gly Thr Gly Ile Ser
1 5

<210> 187
<211> 5
<212> PRT
<213> Homo sapiens

<400> 187
Asn Tyr Gly Phe Ser
1 5

<210> 188
<211> 17
<212> PRT
<213> Homo sapiens

<400> 188
Trp Ile Arg Pro Thr Asp Gly Leu Thr Met Tyr Gly Gln Glu Phe Gln
1 5 10 15

Gly

<210> 189
<211> 17
<212> PRT

<213> Homo sapiens

<400> 189

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Asp | Asp | Arg | Thr | Gly | Thr | Thr | Gln | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 190

<211> 17

<212> PRT

<213> Homo sapiens

<400> 190

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Arg | Ala | Ser | Asp | Gly | Gln | Thr | Ile | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 191

<211> 17

<212> PRT

<213> Homo sapiens

<400> 191

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Gly | Ile | Asp | Gly | Val | Thr | Leu | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 192

<211> 17

<212> PRT

<213> Homo sapiens

<400> 192

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Arg | Ala | Ala | Asp | Gly | Glu | Thr | His | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 193

<211> 17

<212> PRT

<213> Homo sapiens

<400> 193

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Gly | Asn | Asn | Asn | Gly | Asp | Thr | Leu | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 194

<211> 17

<212> PRT

<213> Homo sapiens

<400> 194

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Gly | Pro | Ser | Lys | Gly | Glu | Thr | Ser | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 195

<211> 17

<212> PRT

<213> Homo sapiens

<400> 195

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Arg | Pro | Arg | Asp | Gly | Thr | Thr | His | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 196

<211> 17

<212> PRT

<213> Homo sapiens

<400> 196

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Gly | Arg | Ser | Gly | Ala | Thr | Leu | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 197

<211> 17

<212> PRT

<213> Homo sapiens

<400> 197

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Glu | Gly | Ser | Thr | Gly | Asn | Thr | Ile | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 198

<211> 17

<212> PRT

<213> Homo sapiens

<400> 198

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Gly | Pro | Ile | Asn | Gly | Met | Thr | His | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 199

<211> 17

<212> PRT

<213> Homo sapiens

<400> 199

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Asn | Gly | Asp | Thr | Asn | Tyr | Gly | Gln | Lys | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 200

<211> 17

<212> PRT

<213> Homo sapiens

<400> 200

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Asn | Gly | Asp | Thr | Asp | Tyr | Gly | Gln | Glu | Phe | Gln |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

1 5 10 15

Gly

<210> 201

<211> 17

<212> PRT

<213> Homo sapiens

<400> 201

Trp Ile Ser Ala Asn Asn Gly Gly Thr Asn Tyr Gly Gln Glu Phe Gln
1 5 10 15

Gly

<210> 202

<211> 17

<212> PRT

<213> Homo sapiens

<400> 202

Trp Ile Ser Ala Asn Asn Gly Asp Thr Asn Tyr Arg Gln Glu Phe Gln
1 5 10 15

Gly

<210> 203

<211> 17

<212> PRT

<213> Homo sapiens

<400> 203

Trp Ile Gly Ala Asn Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe Gln
1 5 10 15

Gly

<210> 204

<211> 17

<212> PRT

<213> Homo sapiens

<400> 204

Trp Ile Ser Ala Asn Asn Gly Asp Thr Asn Tyr Gly Gln Glu Phe Arg
1 5 10 15

Gly

<210> 205

<211> 17

<212> PRT

<213> Homo sapiens

<400> 205

Trp Ile Ser Ala Asn Asn Gly Asp Thr Ile Tyr Gly Gln Glu Phe Gln
1 5 10 15

Gly

<210> 206

<211> 17

<212> PRT

<213> Homo sapiens

<400> 206

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Thr | Asn | Asn | Gly | Asp | Thr | Asn | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 207

<211> 17

<212> PRT

<213> Homo sapiens

<400> 207

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Asn | Gly | Asp | Thr | Ile | Tyr | Arg | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 208

<211> 17

<212> PRT

<213> Homo sapiens

<400> 208

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Asn | Gly | Asp | Thr | Ser | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 209

<211> 17

<212> PRT

<213> Homo sapiens

<400> 209

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Asn | Gly | Asp | Thr | Lys | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 210

<211> 17

<212> PRT

<213> Homo sapiens

<400> 210

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Gly | Ala | Asn | Asn | Gly | Asp | Thr | Asp | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 211

<211> 17

<212> PRT

<213> Homo sapiens

<400> 211

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Ile | Gly | Asp | Thr | Asn | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 212

<211> 17

<212> PRT

<213> Homo sapiens

<400> 212

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Asn | Gly | Asp | Thr | Asn | Tyr | Gly | Gln | Gly | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 213

<211> 17

<212> PRT

<213> Homo sapiens

<400> 213

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Thr | Asn | Asn | Gly | Asp | Thr | Asn | Tyr | Gly | Arg | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly

<210> 214

<211> 17

<212> PRT

<213> Homo sapiens

<400> 214

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Ser | Ala | Asn | Asn | Gly | Asp | Thr | Asn | Tyr | Gly | Gln | Glu | Phe | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Lys

<210> 215

<211> 13

<212> PRT

<213> Homo sapiens

<400> 215

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Asp | Ser | Ser | Trp | Ala | Arg | Trp | Phe | Phe | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 216

<211> 13

<212> PRT

<213> Homo sapiens

<400> 216

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Thr | Ser | Ala | Trp | Ala | Arg | Trp | Phe | Phe | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 217

<211> 13

<212> PRT

<213> Homo sapiens

<400> 217

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Asn | Ser | Ala | Trp | Ala | Arg | Trp | Phe | Phe | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 218

<211> 13

<212> PRT

<213> Homo sapiens

<400> 218

Asp Ser Ser Ser Ile Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 219

<211> 13

<212> PRT

<213> Homo sapiens

<400> 219

Asp Ser Thr Ser Arg Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 220

<211> 13

<212> PRT

<213> Homo sapiens

<400> 220

Asp Asp Pro Arg Pro Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 221

<211> 13

<212> PRT

<213> Homo sapiens

<400> 221

Asp Ser Ser Ser Lys Trp Ala Arg Trp Phe Phe Asp Leu
1 5 10

<210> 222

<211> 13

<212> PRT

<213> Homo sapiens

<400> 222

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Asn | Ser | Asn | Trp | Ala | Arg | Trp | Phe | Phe | Tyr | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 223

<211> 13

<212> PRT

<213> Homo sapiens

<400> 223

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ser | Asn | Ser | Ser | Trp | Ala | Arg | Trp | Phe | Phe | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 224

<211> 13

<212> PRT

<213> Homo sapiens

<400> 224

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Arg | Asp | Ser | Ser | Trp | Ala | Arg | Trp | Phe | Phe | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | |

<210> 225

<211> 11

<212> PRT

<213> Homo sapiens

<400> 225

Gly Gly Asn Leu Ile Gly Ser Lys Leu Val His
1 5 10

<210> 226

<211> 11

<212> PRT

<213> Homo sapiens

<400> 226

Gly Gly Asn Met Ile Gly Ser Lys Leu Val His
1 5 10

<210> 227

<211> 11

<212> PRT

<213> Homo sapiens

<400> 227

Gly Gly Asn Cys Ile Gly Ser Lys Leu Val His
1 5 10

<210> 228

<211> 11

<212> PRT

<213> Homo sapiens

<400> 228

Gly Gly Asn Val Ile Gly Ser Lys Leu Val His
1 5 10

<210> 229

<211> 11

<212> PRT

<213> Homo sapiens

<400> 229

Gly Gly Asn Lys Ile Gly Ser Lys Leu Val His
1 5 10

<210> 230

<211> 11

<212> PRT

<213> Homo sapiens

<400> 230

Gly Gly Asn Tyr Ile Gly Ser Lys Leu Val His
1 5 10

<210> 231

<211> 11

<212> PRT

<213> Homo sapiens

<400> 231

Gly Gly Asn Phe Ile Gly Ser Lys Leu Val His
1 5 10

<210> 232

<211> 11

<212> PRT

<213> Homo sapiens

<400> 232

Gly Gly Asn Arg Ile Gly Ser Lys Leu Val His
1 5 10

<210> 233

<211> 11

<212> PRT

<213> Homo sapiens

<400> 233

Gly Gly Asn Thr Ile Gly Ser Lys Leu Val His
1 5 10

<210> 234

<211> 11

<212> PRT

<213> Homo sapiens

<400> 234

Gly Gly Asn Asn Ile Gly Gly Lys Leu Val His
1 5 10

<210> 235

<211> 11

<212> PRT

<213> Homo sapiens

<400> 235

Gly Gly Asn Ser Ile Gly Ser Arg Leu Val His
1 5 10

<210> 236

<211> 11

<212> PRT

<213> Homo sapiens

<400> 236

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Asp | Asn | Ile | Gly | Gly | Lys | Leu | Val | His |
| 1 | | | | 5 | | | | | 10 | |

<210> 237

<211> 11

<212> PRT

<213> Homo sapiens

<400> 237

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Asn | Ser | Ile | Gly | Gly | Lys | Leu | Val | His |
| 1 | | | | 5 | | | | | 10 | |

<210> 238

<211> 11

<212> PRT

<213> Homo sapiens

<400> 238

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Asn | Ala | Ile | Gly | Ser | Lys | Leu | Val | His |
| 1 | | | | 5 | | | | | 10 | |

<210> 239

<211> 11

<212> PRT

<213> Homo sapiens

<400> 239

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Asn | Ser | Ile | Gly | Ser | Lys | Leu | Val | His |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

1 5 10

<210> 240

<211> 11

<212> PRT

<213> Homo sapiens

<400> 240

Gly Gly Asn His Ile Gly Ser Lys Leu Val His
1 5 10

<210> 241

<211> 11

<212> PRT

<213> Homo sapiens

<400> 241

Gly Gly Asn Gly Ile Gly Ser Lys Leu Val His
1 5 10

<210> 242

<211> 11

<212> PRT

<213> Homo sapiens

<400> 242

Gly Gly Ser Asn Ile Gly Gly Lys Leu Val His
1 5 10

<210> 243

<211> 11

<212> PRT

<213> Homo sapiens

<400> 243

Gly Gly Asn Asn Val Gly Gly Lys Leu Val His
1 5 10

<210> 244

<211> 11

<212> PRT

<213> Homo sapiens

<400> 244

Gly Gly Asn Asn Ile Gly Ser Arg Leu Val His
1 5 10

<210> 245

<211> 7

<212> PRT

<213> Homo sapiens

<400> 245

Asp Asp Gly Asp Arg Pro Thr
1 5

<210> 246

<211> 11

<212> PRT

<213> Homo sapiens

<400> 246

Gln Val Trp Asp Thr Gly Ser Asn Pro Val Val
1 5 10

<210> 247

<211> 11

<212> PRT

<213> Homo sapiens

<400> 247

Gln Val Trp Asp Thr Gly Ser Asp Pro Val Ile
1 5 10

<210> 248

<211> 132

<212> PRT

<213> Artificial sequence

<220>

<223> Consensus between human IL-3 and Cynomolgus IL-3

<220>

<221> MISC_FEATURE

<222> (21, 30, 62, 87, 103, 120, 130)

<223> Xaa = no consensus

<400> 248

Met Ala Leu Leu Leu Thr Thr Val Ile Ala Leu Thr Cys Leu Gly Gly
1 5 10 15

Phe Ala Ser Pro Xaa Pro Val Pro Pro Ser Thr Ala Leu Xaa Glu Leu
20 25 30

Ile Glu Glu Leu Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys
35 40 45

Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Xaa Tyr Cys
50 55 60

Ala Ala Leu Glu Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu
65 70 75 80

Lys Thr Gln Arg Met Leu Xaa Gly Phe Cys Pro His Lys Val Ser Ala
85 90 95

Gly Gln Phe Ser Ser Leu Xaa Val Arg Asp Thr Lys Ile Glu Val Ala
100 105 110

Gln Phe Val Lys Asp Leu Leu Xaa His Leu Lys Lys Leu Phe Arg Glu
115 120 125

Gly Xaa Phe Asn
130

<210> 249

<211> 136

<212> PRT

<213> Artificial sequence

<220>

<223> Consensus between human IL-3 and murine IL-3

<220>

<221> MISC_FEATURE

<222> (4, 5, 7, 9, 12, 17, 19, 25, 27..32, 34, 41, 46, 48)

<223> Xaa = no consensus

<220>

<221> MISC_FEATURE

<222> (49, 60, 61, 63, 66, 67, 69, 72, 75, 77, 79, 81, 84)

<223> Xaa = no consensus

<220>

<221> MISC_FEATURE

<222> (85, 89, 91, 93, 95, 96, 98..103, 107..109, 117)

<223> Xaa = no consensus

<220>

<221> MISC_FEATURE

<222> (119..121, 124..126, 128, 132, 134, 136)

<223> Xaa = no consensus

<400> 249

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Xaa | Xaa | Thr | Xaa | Val | Xaa | Ala | Leu | Xaa | Cys | Leu | Gly | Gly |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Xaa | Pro | Gly | Pro | Val | Pro | Xaa | Ser | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Xaa | Glu | Leu | Ile | Glu | Glu | Leu | Xaa | Asn | Ile | Thr | Gln | Xaa | Gln | Xaa |
| | | 35 | | | | | 40 | | | | | 45 | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Pro | Leu | Cys | Asn | Gly | Ser | Met | Val | Trp | Ser | Xaa | Xaa | Leu | Xaa | Ala |
| | 50 | | | | | 55 | | | | | 60 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Xaa | Xaa | Cys | Xaa | Ala | Leu | Xaa | Ser | Leu | Xaa | Asn | Xaa | Ser | Xaa | Cys |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Ile | Xaa | Xaa | Thr | Gln | Arg | Xaa | Leu | Xaa | Gly | Xaa | Cys | Xaa | Xaa |
| | | | | 85 | | | | | 90 | | | | | 95 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Ser | Ser | Leu | Xaa | Xaa | Xaa | Asp | Thr | Lys |
| | | | 100 | | | | | 105 | | | | | | 110 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Glu | Val | Ala | Xaa | Phe | Xaa | Xaa | Xaa | Leu | Leu | Xaa | Xaa | Xaa | Lys | Xaa |
| | | 115 | | | | | 120 | | | | | 125 | | | |

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Phe | Arg | Xaa | Gly | Xaa | Phe | Xaa |
| | 130 | | | | | 135 | |